

Microsoft Excel 2016: Beginners and Intermediate Training



Introduction to Excel's Basic Features

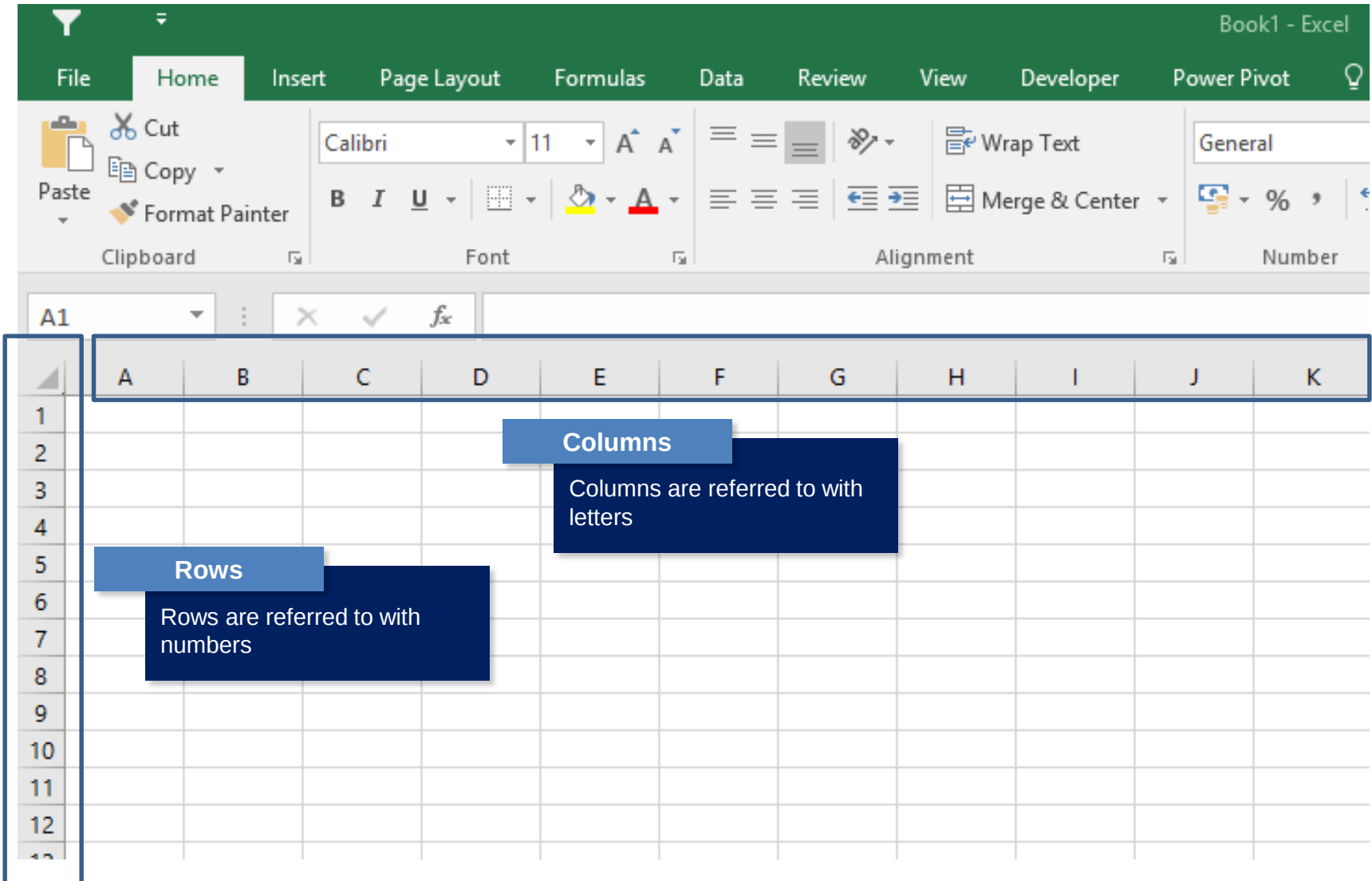
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Column and Row references

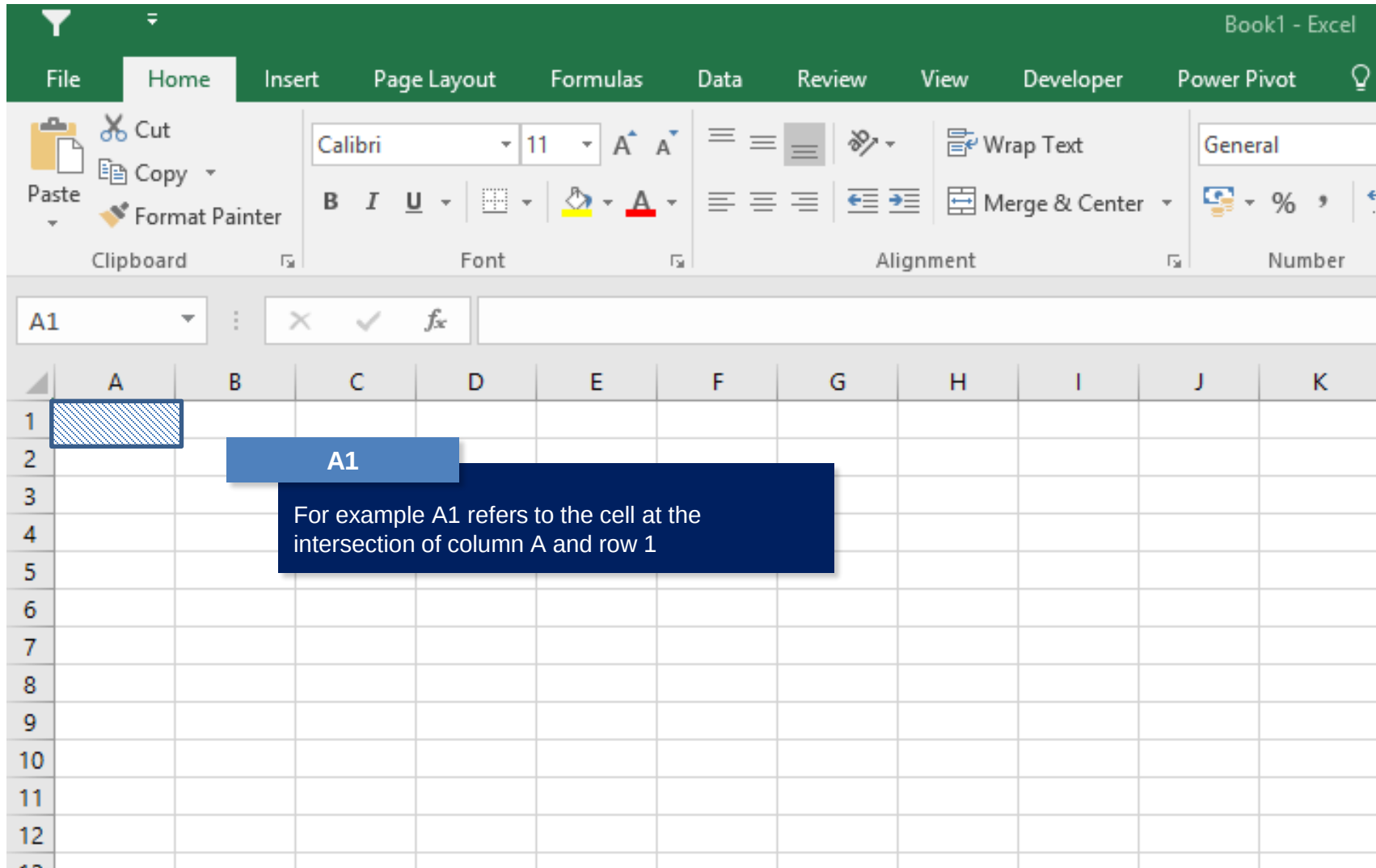


The image shows the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Power Pivot. The Home tab is active, showing groups for Clipboard, Font, Alignment, and Number. Below the ribbon, the formula bar shows 'A1'. The grid below has columns labeled A through K and rows numbered 1 through 12. Two callout boxes are present: one labeled 'Columns' pointing to the column headers, and another labeled 'Rows' pointing to the row numbers.

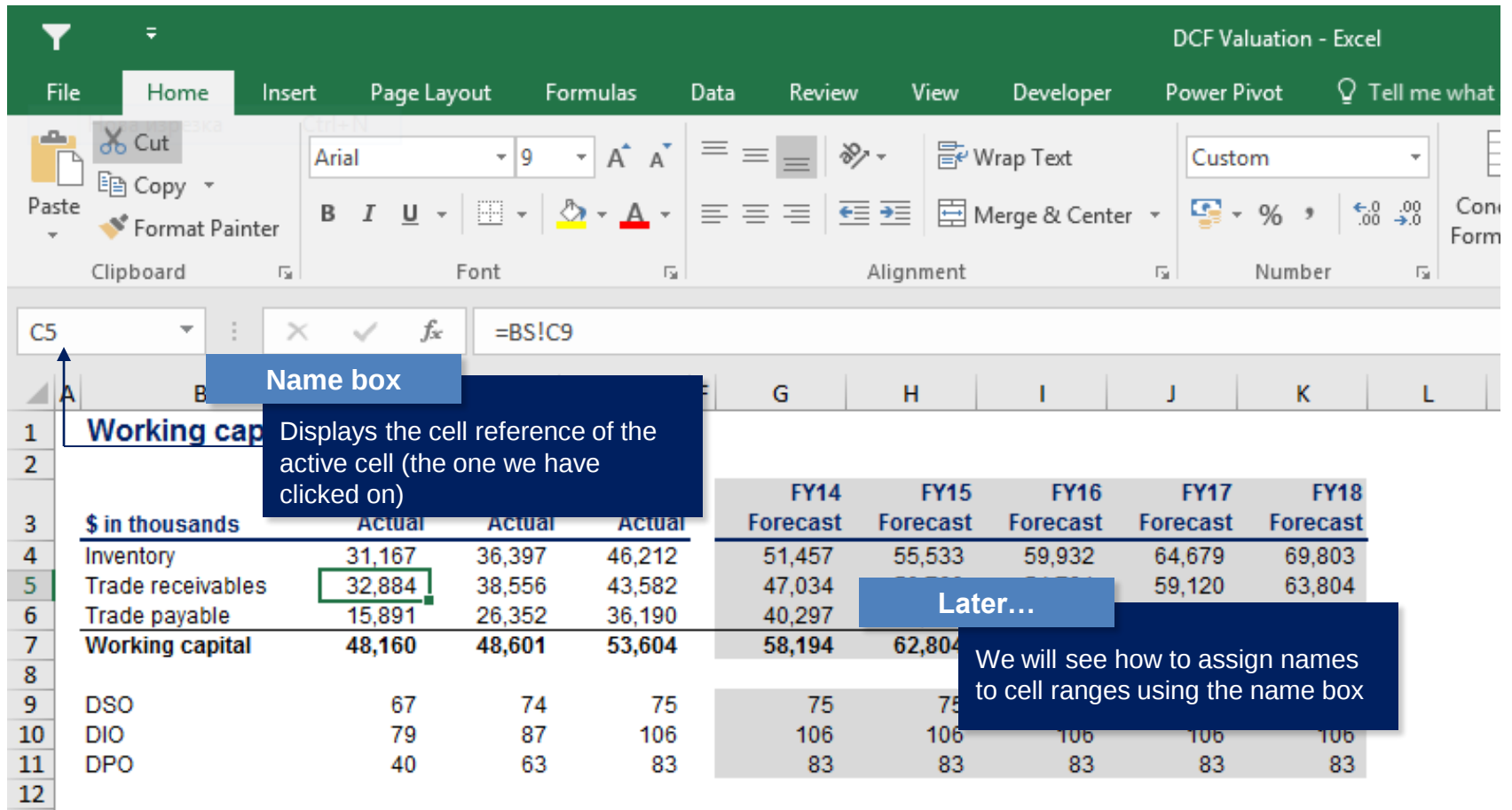
Columns
Columns are referred to with letters

Rows
Rows are referred to with numbers

Column and Row references

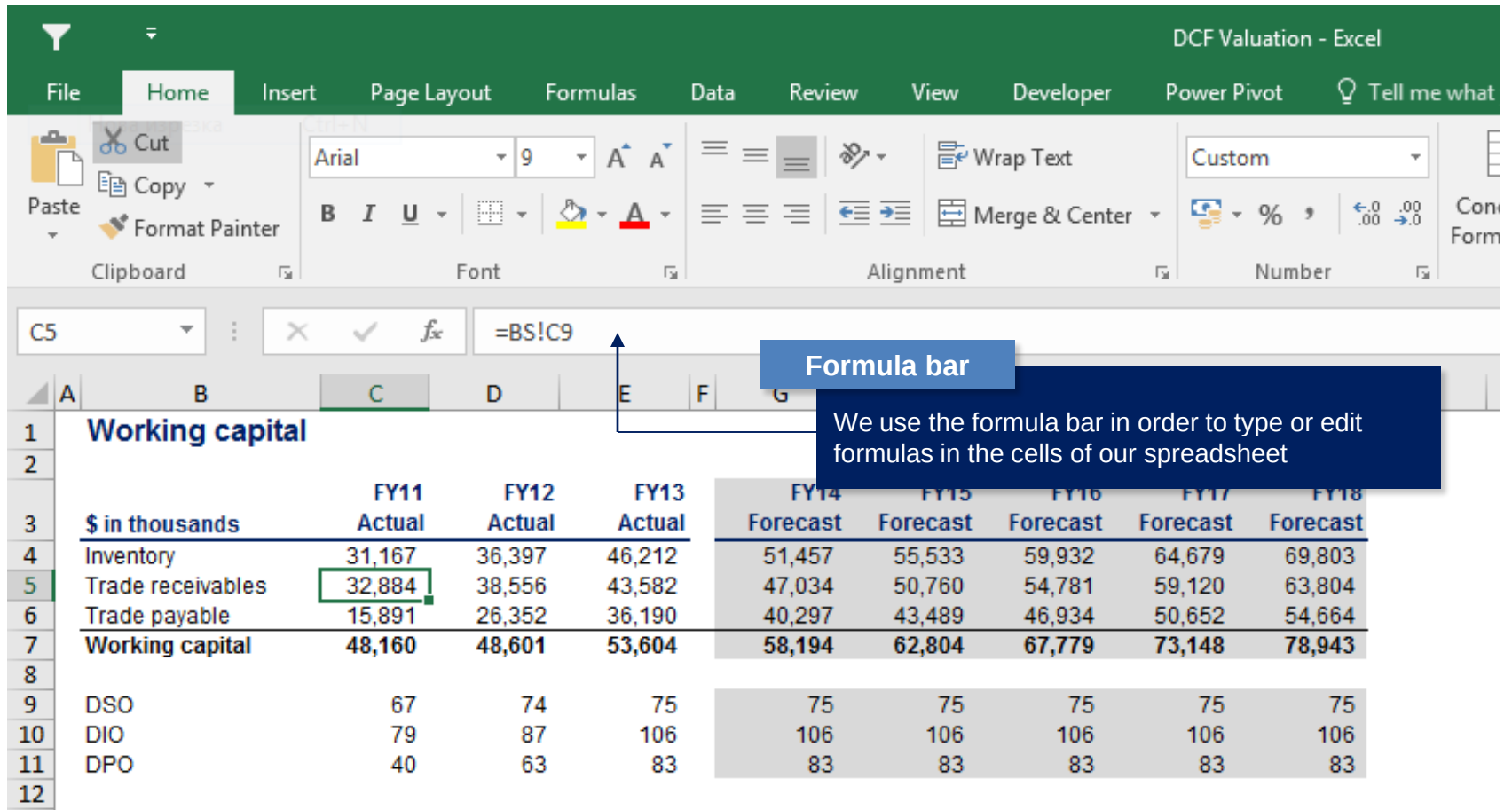


The screenshot displays the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Power Pivot. The 'Home' tab is active, showing groups for Clipboard (Cut, Copy, Paste, Format Painter), Font (Calibri, size 11, bold, italic, underline, text color, background color), Alignment (text alignment, orientation, merge & center), and Number (general, percentage, currency, date, time, text, scientific, fraction, decimal). The formula bar shows 'A1' in the cell reference box. The grid below has columns labeled A through K and rows numbered 1 through 12. Cell A1 is highlighted with a blue border and a diagonal line pattern. A blue callout box with the text 'A1' is positioned over cell B2. A dark blue callout box with white text is positioned over cell C3, stating: 'For example A1 refers to the cell at the intersection of column A and row 1'.



The screenshot shows the Microsoft Excel interface. The ribbon is set to 'Home'. The Name box, located at the top left of the worksheet area, displays 'C5'. A blue callout box points to the Name box with the text: 'Name box Displays the cell reference of the active cell (the one we have clicked on)'. The active cell is C5, which contains the formula '=BS!C9'. The worksheet contains a table with financial data. The first part of the table is labeled 'Working capital' and the second part is labeled 'Later...'. The table has columns for 'FY14 Forecast', 'FY15 Forecast', 'FY16 Forecast', 'FY17 Forecast', and 'FY18 Forecast'. The rows include 'Inventory', 'Trade receivables', 'Trade payable', 'Working capital', 'DSO', 'DIO', and 'DPO'.

		FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
3	\$ in thousands					
4	Inventory	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	47,034			59,120	63,804
6	Trade payable	40,297				
7	Working capital	58,194	62,804			
9	DSO	75	75			
10	DIO	106	106	106	106	106
11	DPO	83	83	83	83	83



DCF Valuation - Excel

File Home Insert Page Layout Formulas Data Review View Developer Power Pivot Tell me what

Cut Copy Paste Format Painter Clipboard

Arial 9 A A B I U Font

Wrap Text Merge & Center Alignment

Custom Number

C5 X ✓ *f* **=BS!C9**

Formula bar

We use the formula bar in order to type or edit formulas in the cells of our spreadsheet

		FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
1	Working capital								
2									
3	\$ in thousands								
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
8									
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83
12									

Formula bar

DCF Valuation - Excel

Page Layout Formulas Data Review View Developer Power Pivot Tell me what you want to do

Font Alignment Number Styles Cells

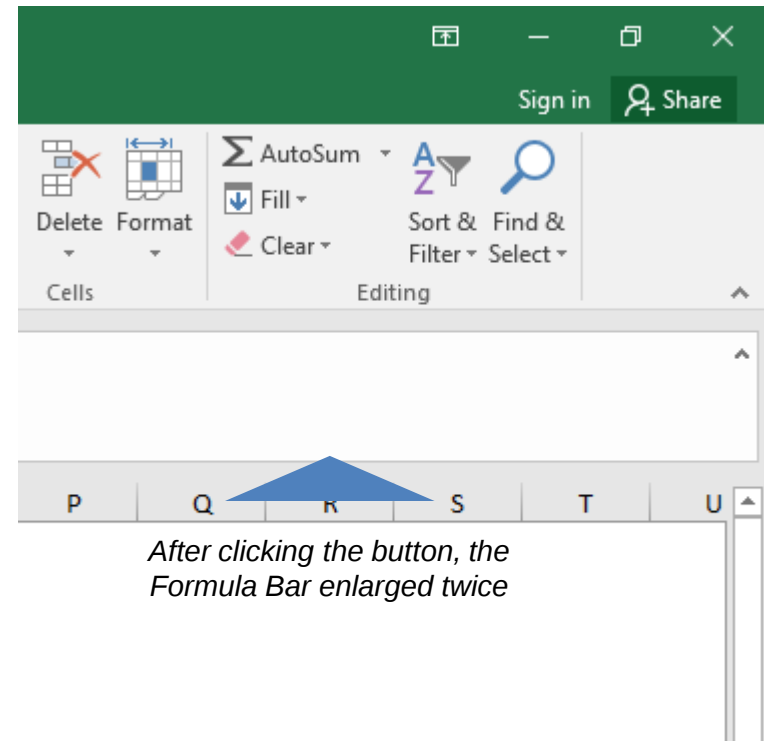
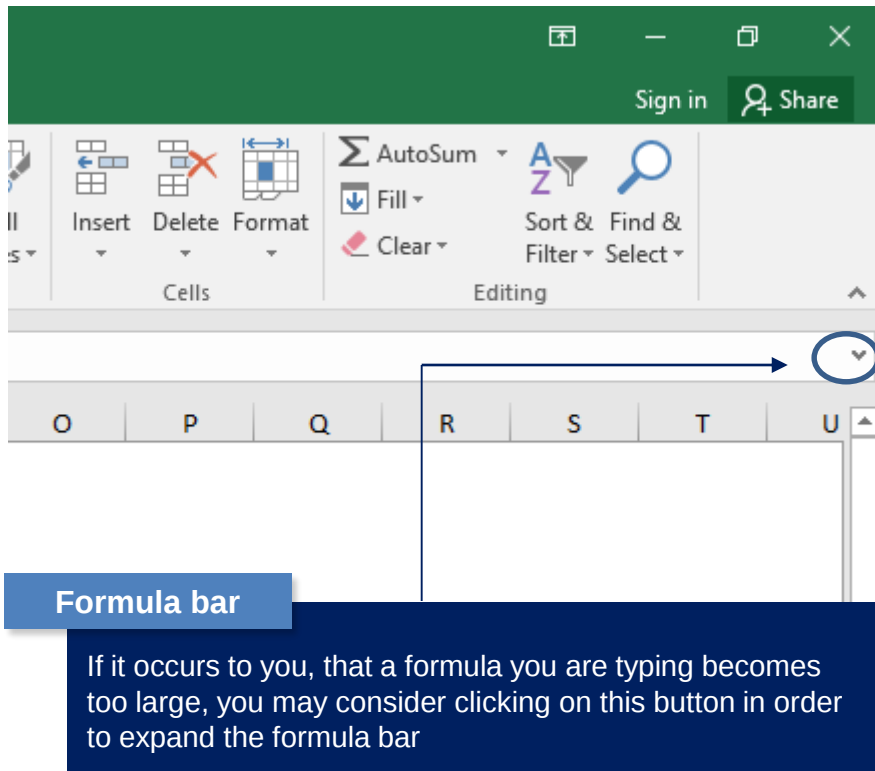
Formula bar: =SUMI

Formula bar suggestions: SUMIF, SUMIFS

Once you start typing, the formula bar would provide suggestions for the formula that you might be looking for. It will also display the necessary arguments of the formula once you select it

FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
160	48,601	53,604	58,194	62,804	67,779	=SUMI	78,943
67	74	75	75	75	75	75	75
79	87	106	106	106	106	106	106
40	63	83	83	83	83	83	83

Expanding the formula bar



	\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
3									
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
8									
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83

FY11-FY18: Working capital development



3.Charts -->

Revenues&Ebitda

Cash flows

Ebitda bridge

Working capital

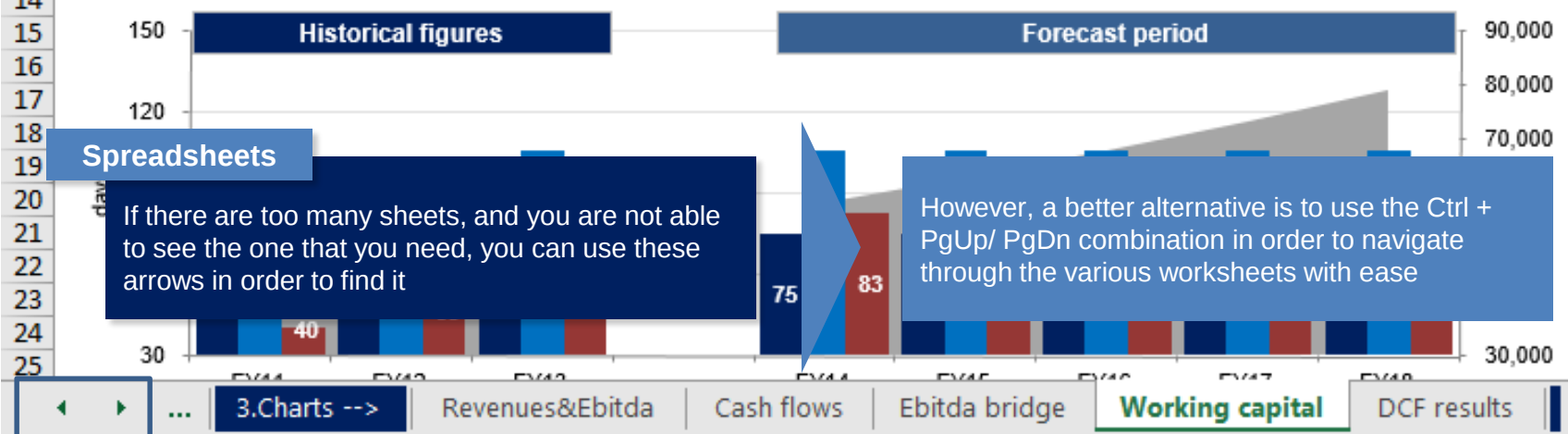
DCF results

Ready



		FY11	FY12	FY13		FY14	FY15	FY16	FY17	FY18
	\$ in thousands	Actual	Actual	Actual		Forecast	Forecast	Forecast	Forecast	Forecast
3										
4	Inventory	31,167	36,397	46,212		51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582		47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190		40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604		58,194	62,804	67,779	73,148	78,943
8										
9	DSO	67	74	75		75	75	75	75	75
10	DIO	79	87	106		106	106	106	106	106
11	DPO	40	63	83		83	83	83	83	83

FY11-FY18: Working capital development



	E	F	G	H	I	J	K	L	M	N	O	P	Q
--	---	---	---	---	---	---	---	---	---	---	---	---	---

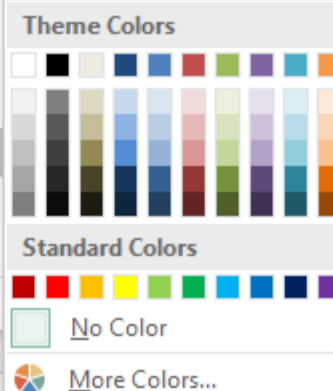
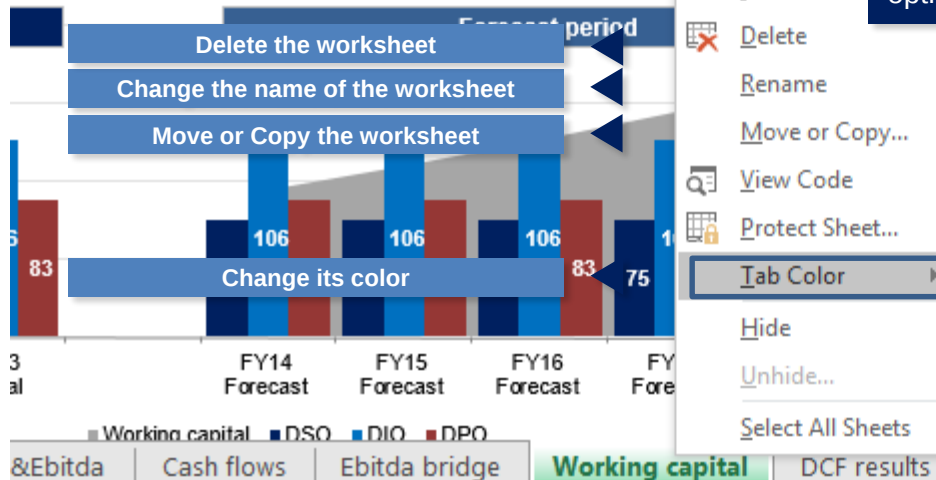
FY12 ctual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
,397	46,212	51,457	55,533	59,932	64,679	69,803
,556	43,582	47,034	50,760	54,781	59,120	63,804
,352	36,190	40,297	43,489	46,934	50,652	54,664
,601	53,604	58,194	62,804	67,779	73,148	78,943

74	75	75	75	75	75	75
87	106	106	106	106	106	106
63	83	83	83	83	83	83

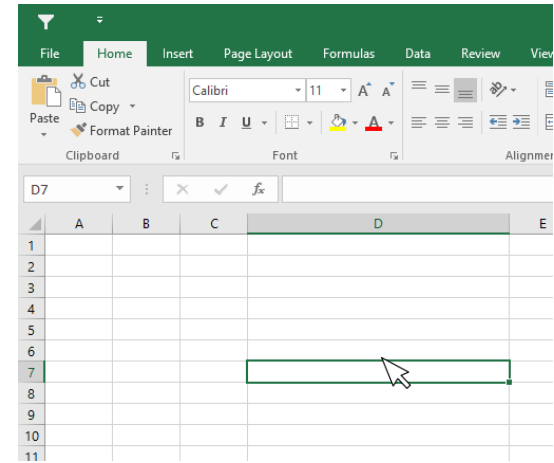
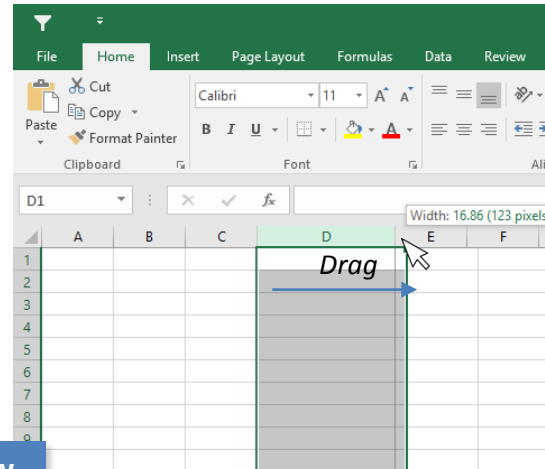
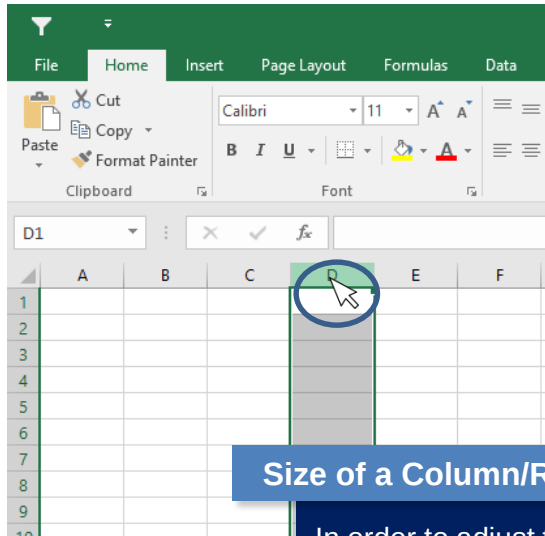
Spreadsheets

By right clicking on a worksheet, several formatting options become available:

ment

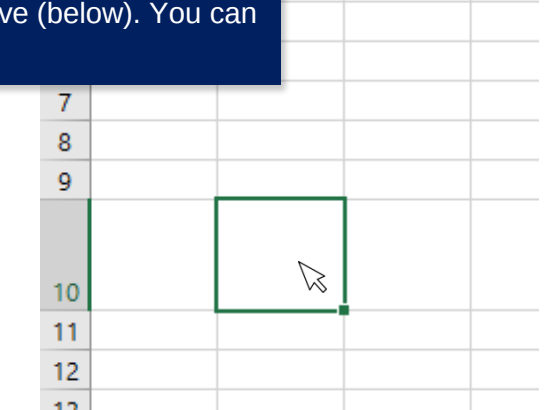
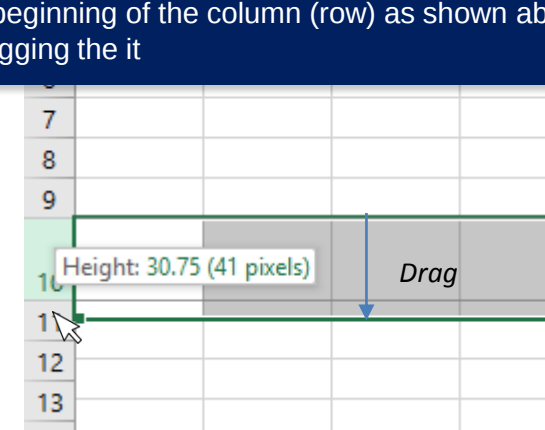
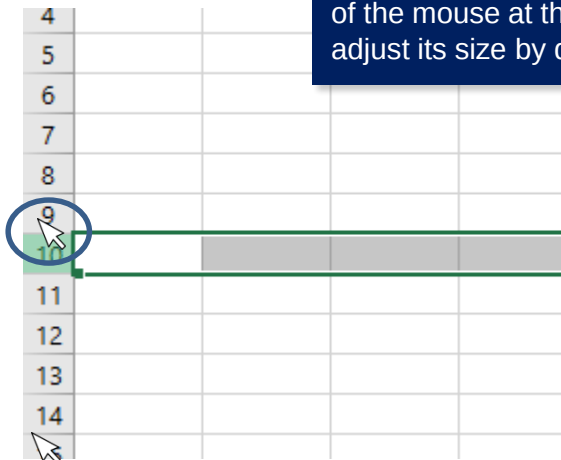


Adjusting the size of a column/row manually

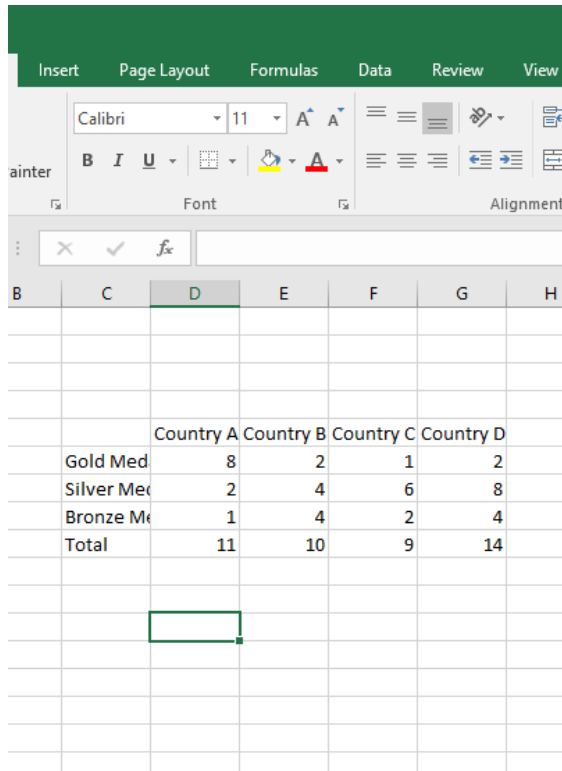


Size of a Column/Row

In order to adjust the size of a column (or a row) manually, click with the left button of the mouse at the beginning of the column (row) as shown above (below). You can adjust its size by dragging the it

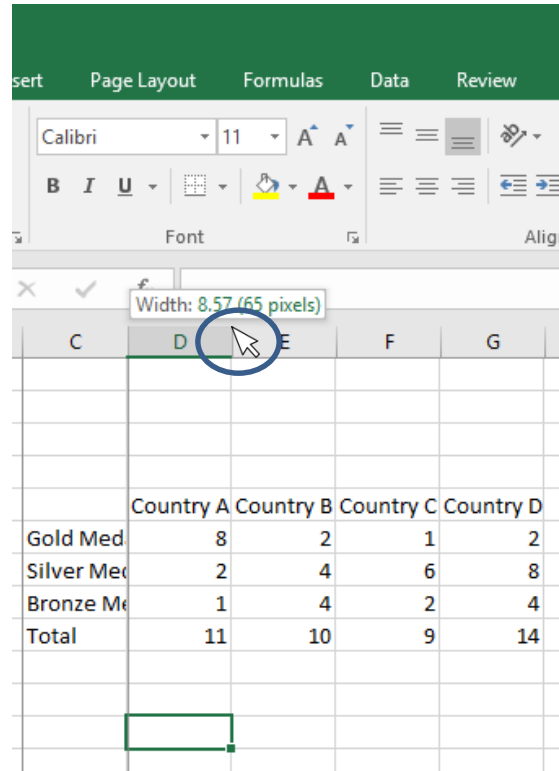


Adjusting the size of a column automatically



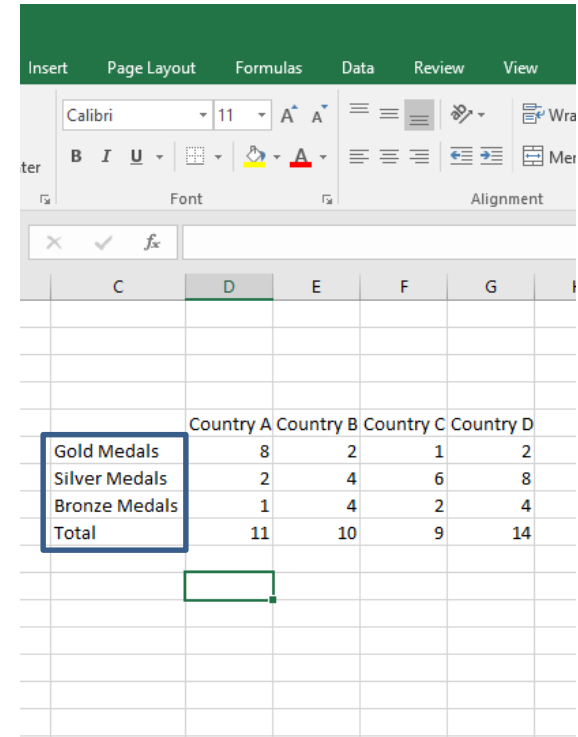
	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

If the content of some of the cells within a column does not fit its size (as shown above), you can do the following:



	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Double-click with the left mouse button and adjust the column's size



	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

The column would automatically fit the cells' size

Selecting a row/column with the keyboard

Home Insert Page Layout Formulas Data Review View Developer

Cut Copy Format Painter Font Calibri 11 Bold Italic Underline Paragraph Alignment

Select a column

The shortcut for selecting a column is Ctrl + Space

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Insert Page Layout Formulas Data Review View

Font Calibri 11 Bold Italic Underline Paragraph Alignment

Enter

Wrap Text Merge & Center

Enter

Font Alignment

SUM(E6:E8)

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Select a row

The shortcut for selecting a row is Shift + Space

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Inserting a row/column

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, column D is highlighted in green. The data in the worksheet is as follows:

	A	B	C	D	E
1					
2					
3					
4					
5				Country A	Country B
6			Gold Medals	8	2
7			Silver Medals	2	4
8			Bronze Medals	1	4
9			Total	11	10
10					
11					

Insert a column

If you want to insert an empty column in a sheet, select the column before which you would like to insert a new column, right-click with the mouse and choose "Insert", or just use "Ctrl ,Shift and +".

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, column D is highlighted in green. The 'Insert' context menu is open, showing options like Cut, Copy, Paste Options, Paste Special, Insert, Delete, Clear Contents, Format Cells, Column Width, Hide, and Unhide. The data in the worksheet is as follows:

	C	D	E	F	G	H
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, column D is highlighted in green. The data in the worksheet is as follows:

	C	D	E	F	G	H
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

The screenshot shows the Excel worksheet with row 9 highlighted in green. The data in the worksheet is as follows:

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Insert a row

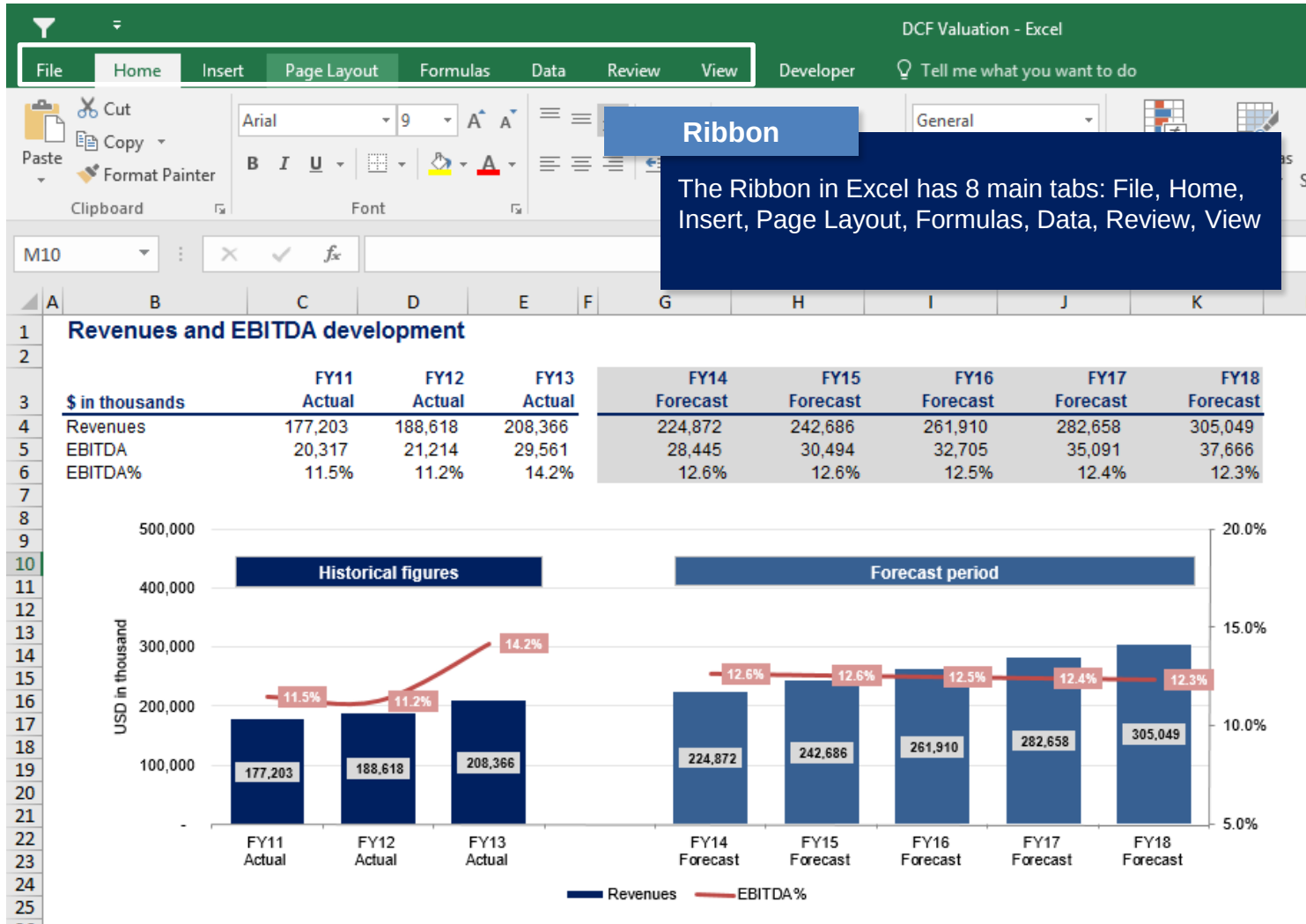
If you want to insert an empty row in a sheet, select the row before which you would like to insert a new row, right-click with the mouse and choose "Insert", or just use "Ctrl ,Shift and +".

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, row 9 is highlighted in green. The 'Insert' context menu is open, showing options like Cut, Copy, Paste Options, Paste Special, Insert, Delete, Clear Contents, Format Cells, Column Width, Hide, and Unhide. The data in the worksheet is as follows:

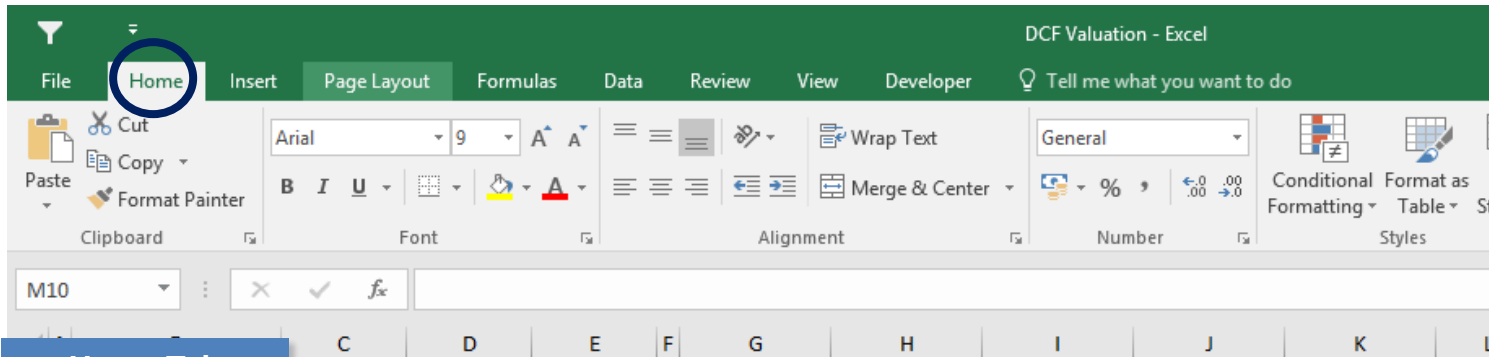
	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

The screenshot shows the Excel worksheet with row 9 highlighted in green. The data in the worksheet is as follows:

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

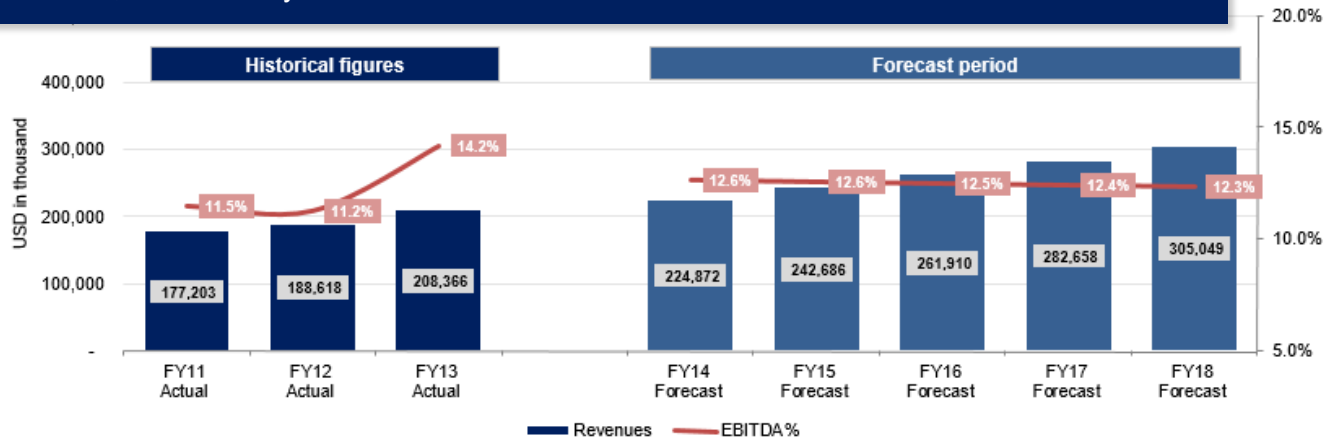


Explore the Ribbon Tabs: Home

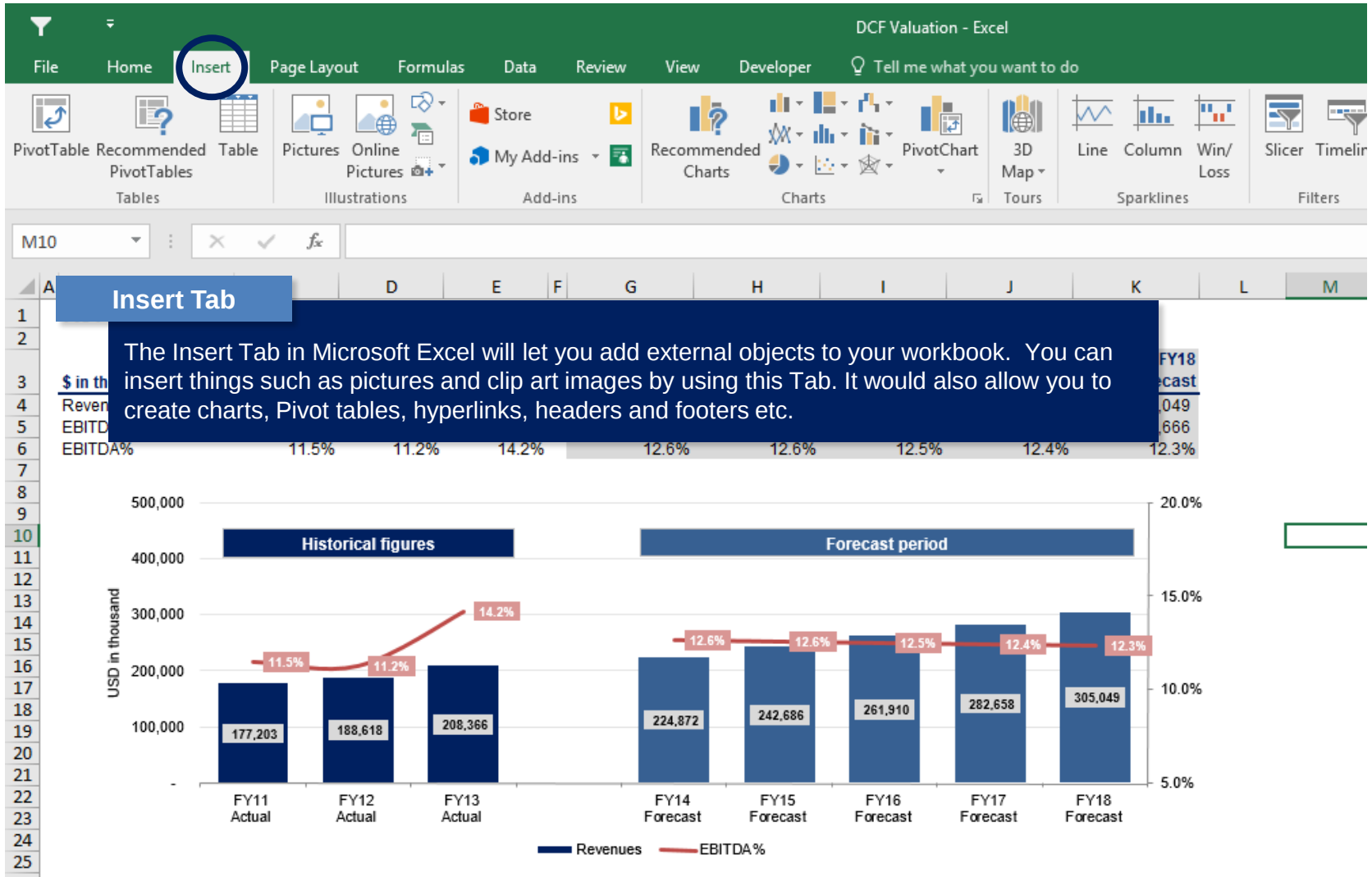


Home Tab

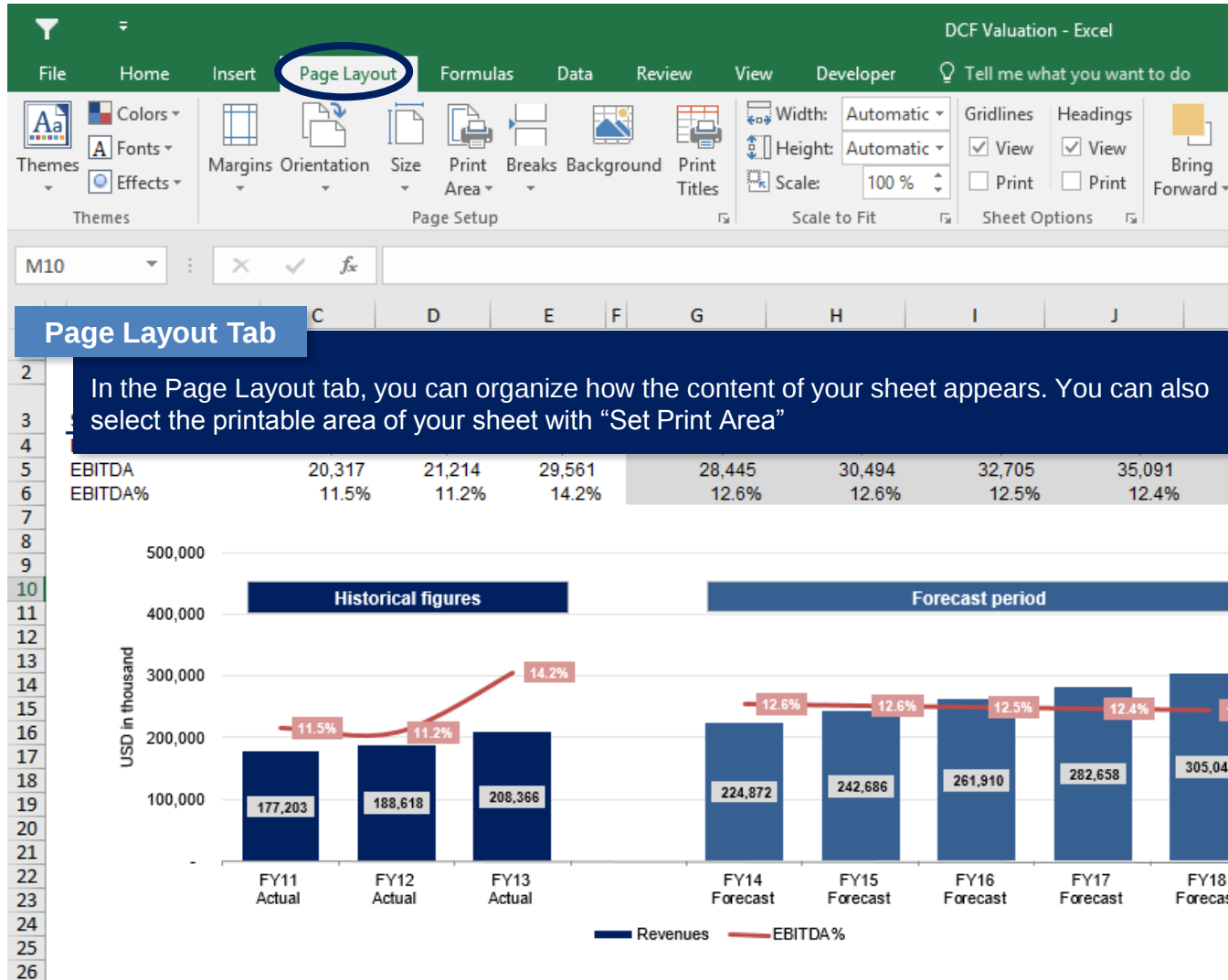
The Home tab contains some of the most frequently used properties. It includes buttons such as Cut, Copy and Paste which can transfer text, data or objects within your files. Most of the formatting options are included here as well. You will find features such as Font, Font Size, Borders of cells, Text color, Alignment etc. Within the Home tab, we can find also the “Find & Select” tool, which is very useful in certain situations



Explore the Ribbon Tabs: Insert

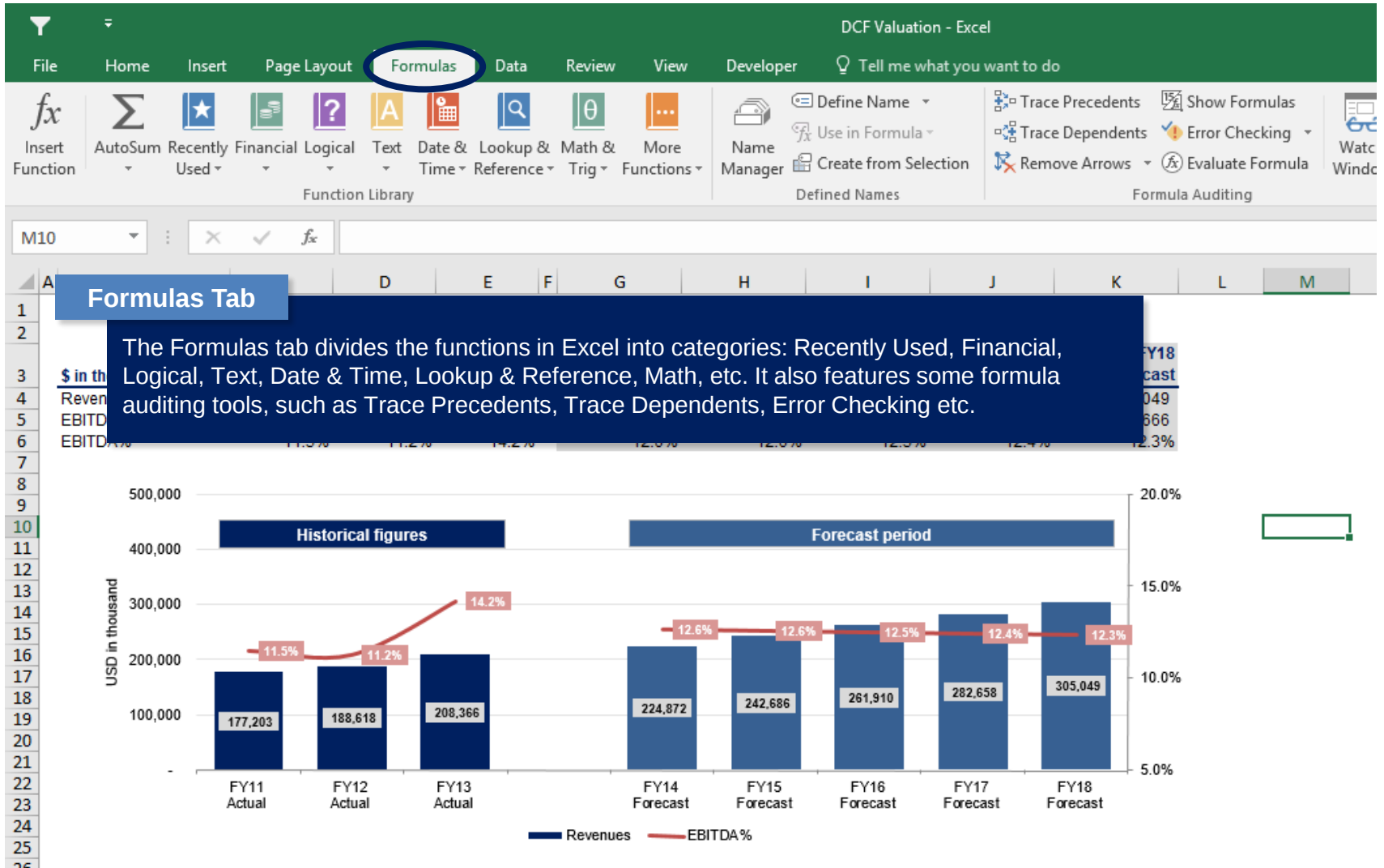


Explore the Ribbon Tabs: Page Layout

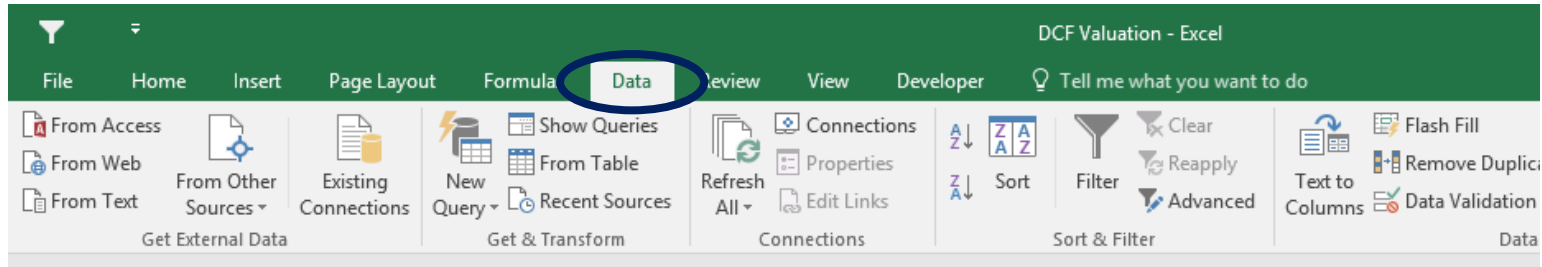


Explore the Ribbon Tabs: Formulas

365  Careers

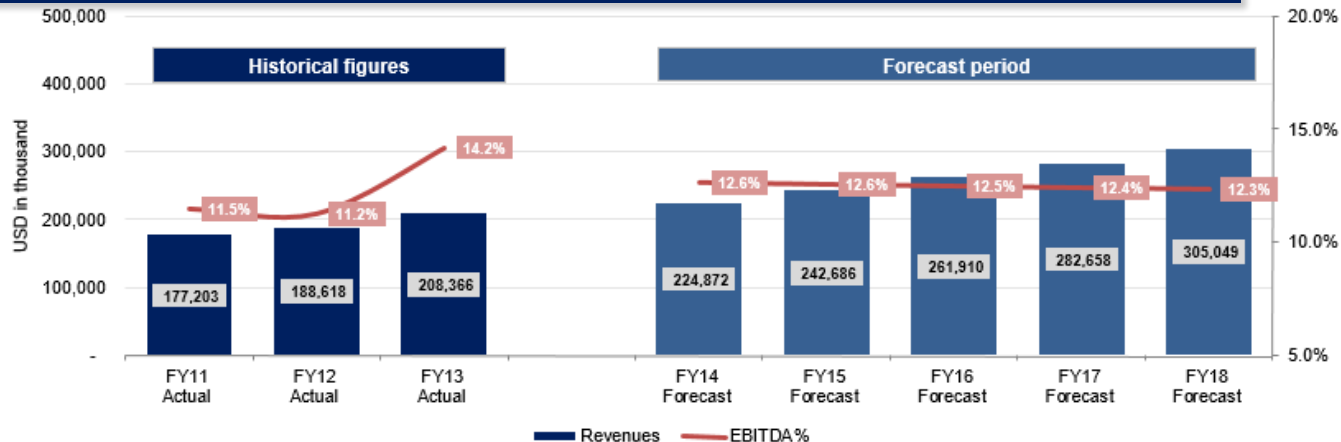


Explore the Ribbon Tabs: Data

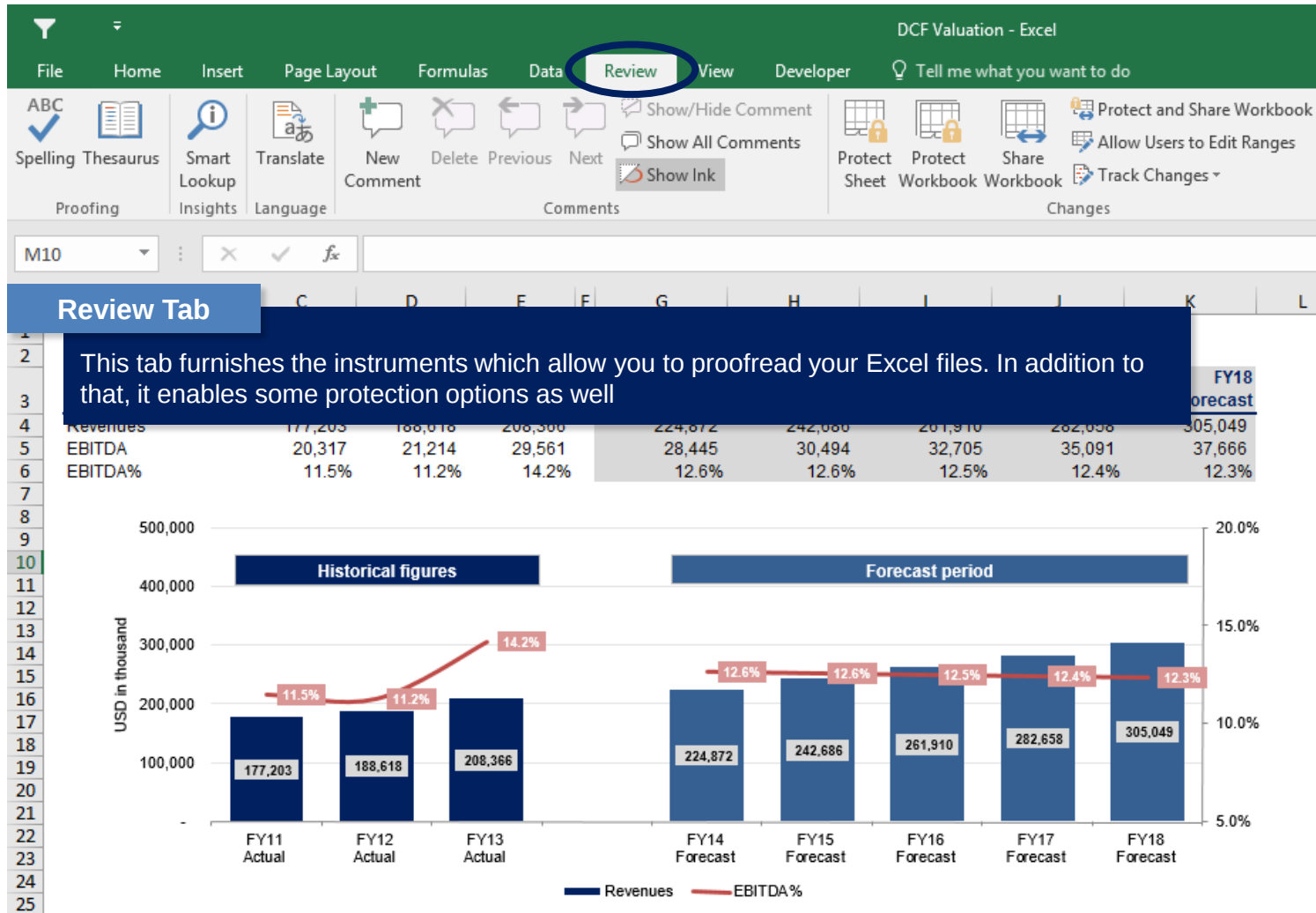


Data Tab

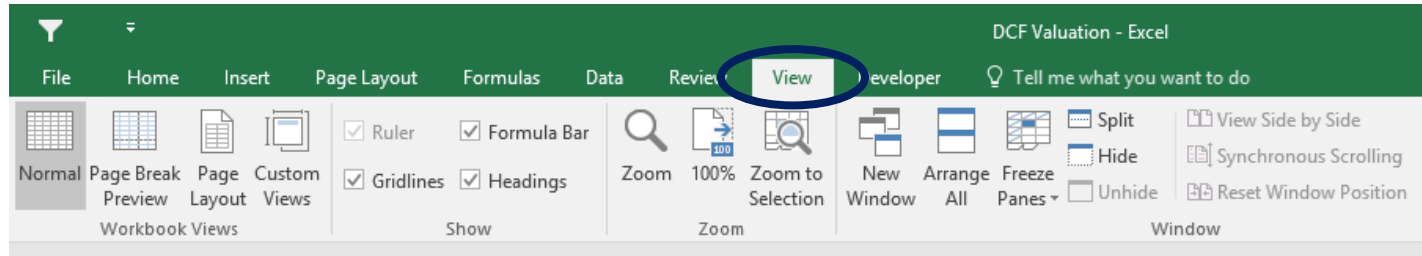
This is where we can find the commands for working with lists and groups of data. Here we have a number of useful applications such as “Remove Duplicates”, “Text to Columns”, “Data Validation”, “What-if analysis” – all of which we will see in detail later in this course. This is also where we find some of the common data management tools such as cell grouping and data sorting



Explore the Ribbon Tabs: Review

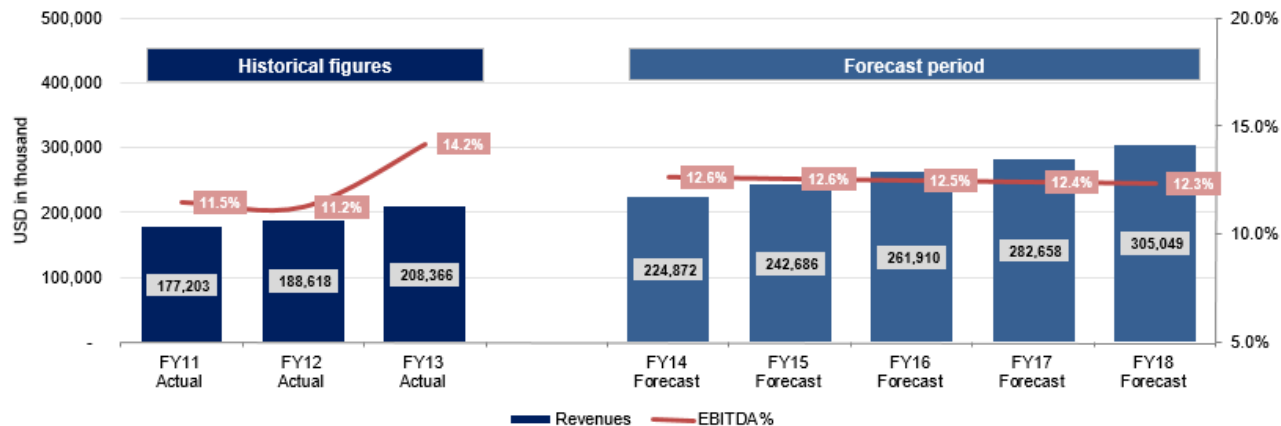


Explore the Ribbon Tabs: View

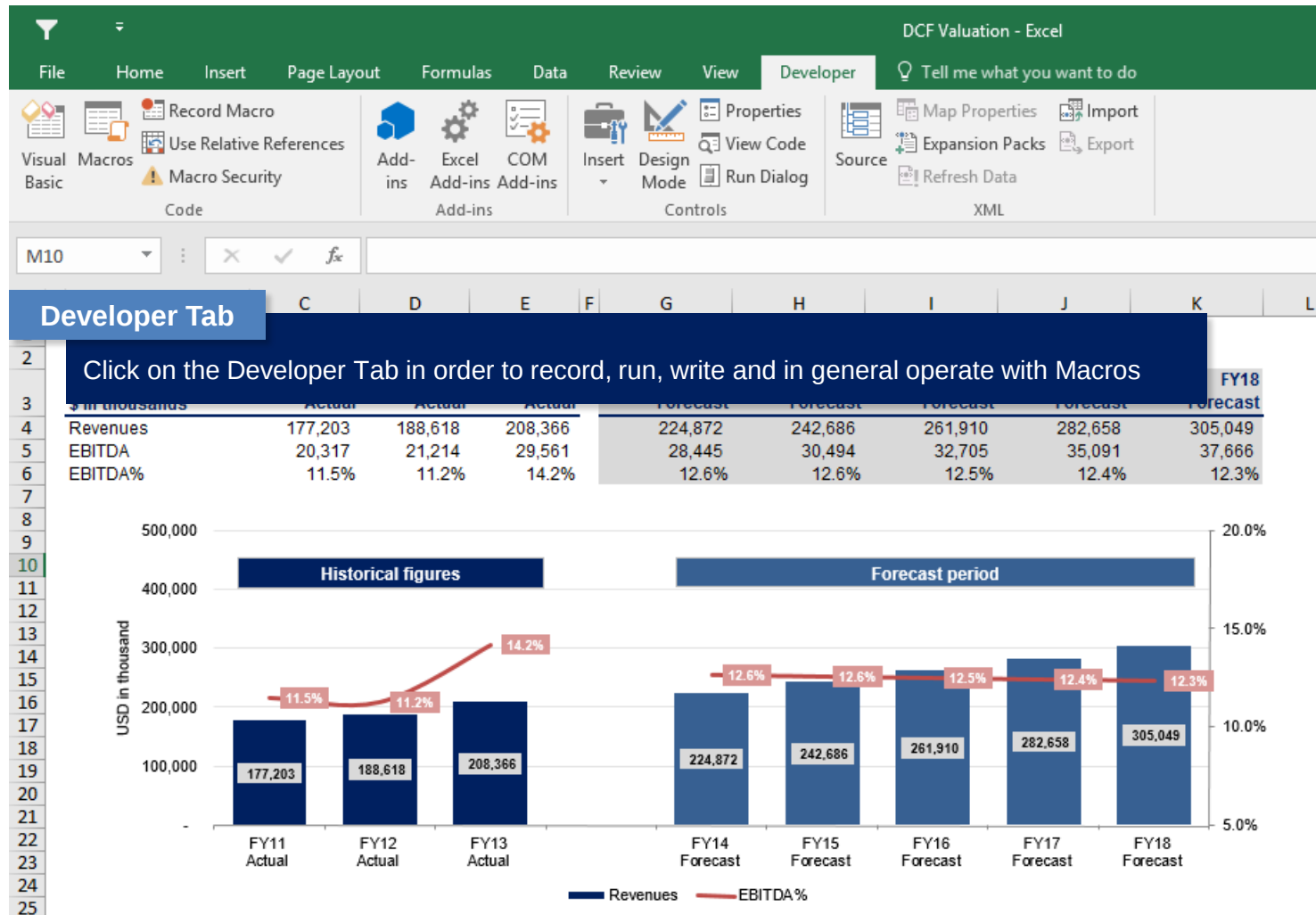


View Tab

The View Tab allows you to customize the way you see your spreadsheet: you can select among different Workbook View options, Zoom options etc.



Explore the Ribbon Tabs: Developer



Right-click on a cell

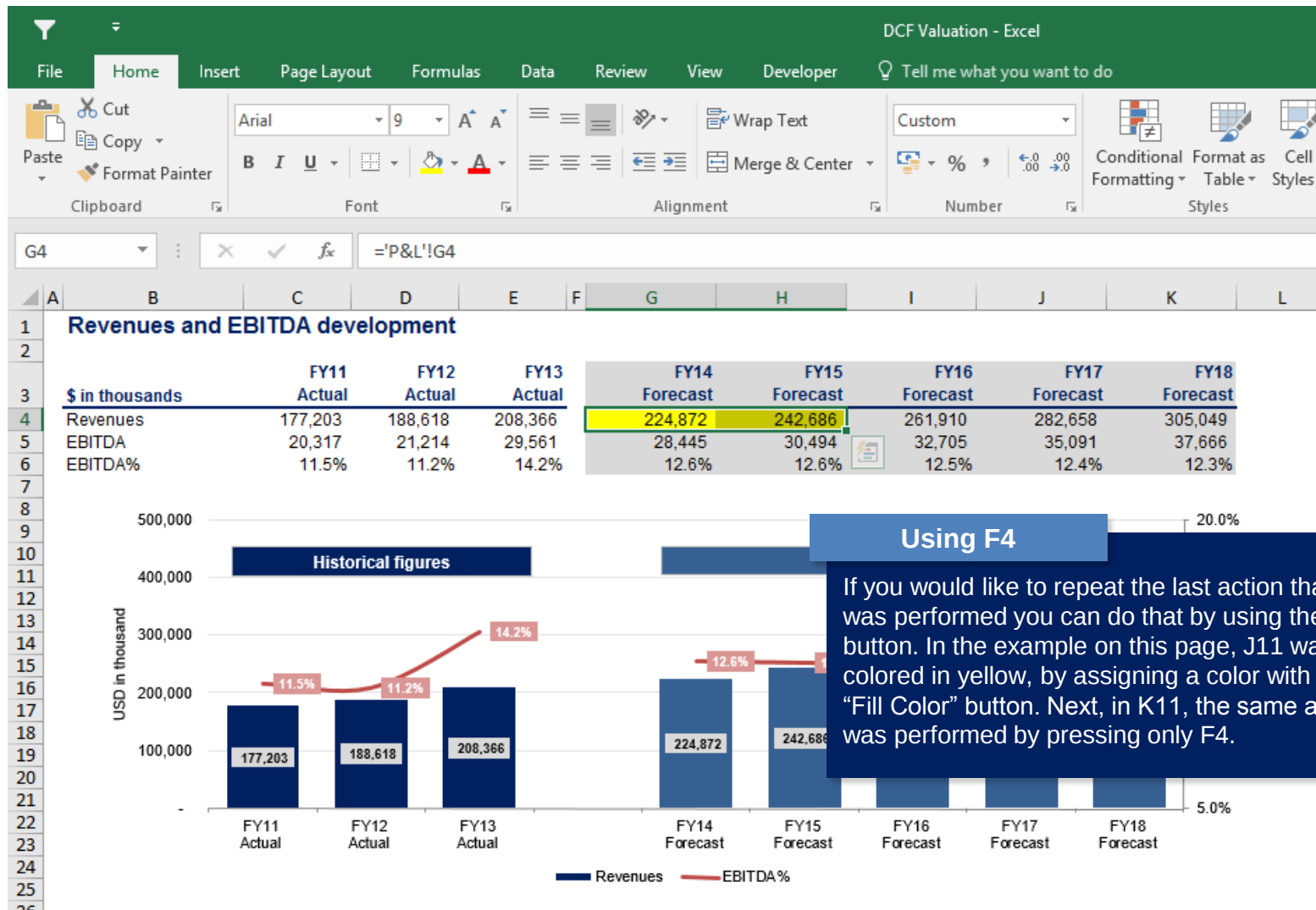
Right-click on a cell

A number of options are available when you right-click on a cell. You can copy its content, paste the content of a previously copied cell, shift its position (insert or delete), format the cell etc.

The screenshot displays the Excel interface with the 'Developer' tab selected. A right-click context menu is open over cell D5, which contains the formula `=P&L!D11`. The menu options include: Cut, Copy, Paste Options (with sub-options: Paste, Paste Special...), Smart Lookup, Insert..., Delete..., Clear Contents, Quick Analysis, Filter, Sort, Insert Comment, Format Cells..., and Pick From Drop-down List... The background shows a financial model with columns for FY11 Actual, FY12 Actual, and FY15-FY18 Forecast. A bar chart titled 'Historical figures' shows Revenues and EBITDA for FY11 and FY12. Another bar chart titled 'Forecast period' shows Revenues and EBITDA for FY15-FY18.

	FY11 Actual	FY12 Actual	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
Revenues	177,203	188,618	242,686	261,910	282,658	305,049
EBITDA	20,317	21,234	30,494	32,705	35,091	37,666
EBITDA%	11.5%	11.2%	12.6%	12.5%	12.4%	12.3%

Repeat the last action (F4)



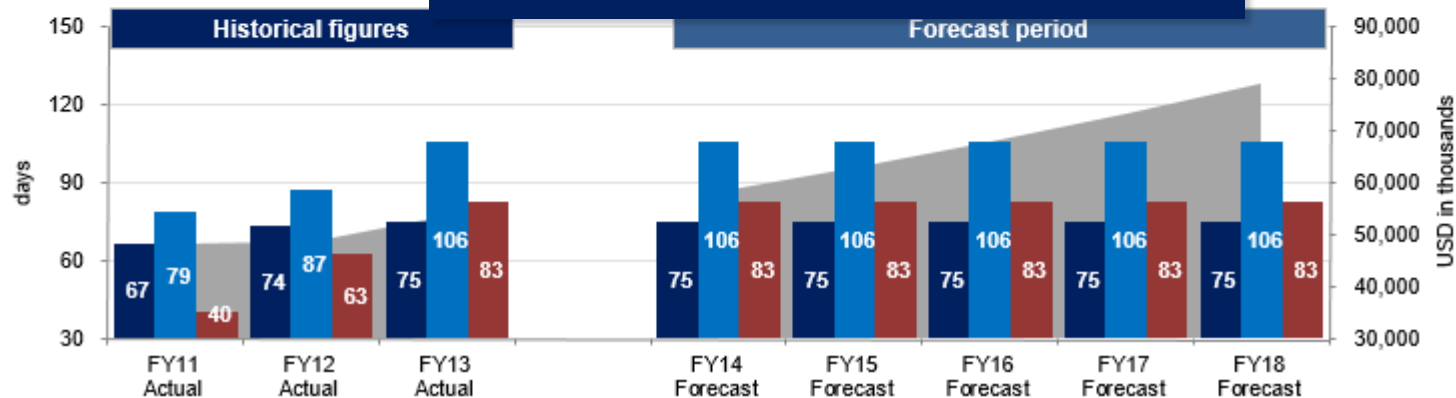
Editing a cell's content

	A	B	C	D	E	F	G	H	I	J	K	L
1		Working capital										
2												
3		\$ in thousands	FY11	FY12	FY13		FY14	FY15	FY16	FY17	FY18	
4			Actual	Actual	Actual		Forecast	Forecast	Forecast	Forecast	Forecast	
5		Inventory	31,167	36,397	46,212		51,457	55,533	59,932	64,679	69,803	
6		Trade receivables	32,884	38,556	43,582		47,034	50,760	54,781	59,120	63,804	
7		Trade payable	15,891	26,352	36,190		40,297	43,489	46,934	50,652	54,664	
8		Working capital	48,160	48,601	=E4+E5-E6		58,194	62,804	67,779	73,148	78,943	

Editing with F2

You can edit the content of a cell by selecting it and then clicking F2. Performing such an action would allow you to start typing directly in the Formula Bar

FY11-FY18: Working capital development



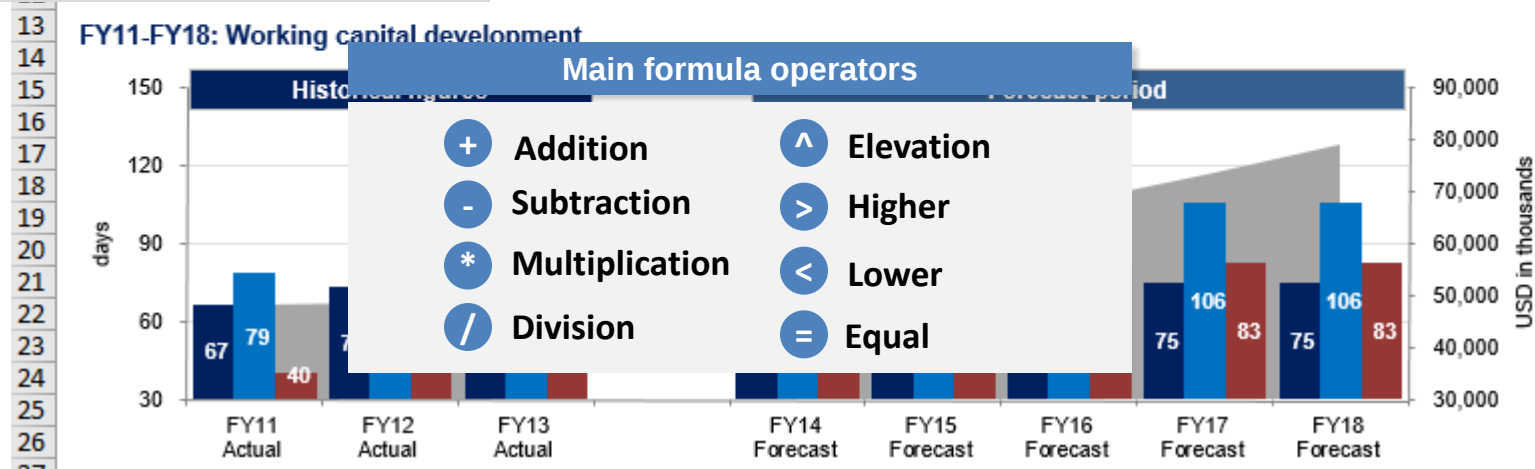
Creating an Excel formula

	A	B	C	D	E	F	G	H	I	J	K	L
1		Working capital										
2												
3			FY11	FY12	FY13		FY14	FY15	FY16	FY17	FY18	
		\$ in thousands	Actual	Actual	Actual		Forecast	Forecast	Forecast	Forecast	Forecast	
4		Inventory	31,167	36,397	46,212		51,457	55,533	59,932	64,679	69,803	
5		Trade receivables	32,884	38,556	43,582		47,034	50,760	54,781	59,120	63,804	
6		Trade payable	15,891					43,489	46,934	50,652	54,664	
7		Working capital	48,160							73,148	78,943	

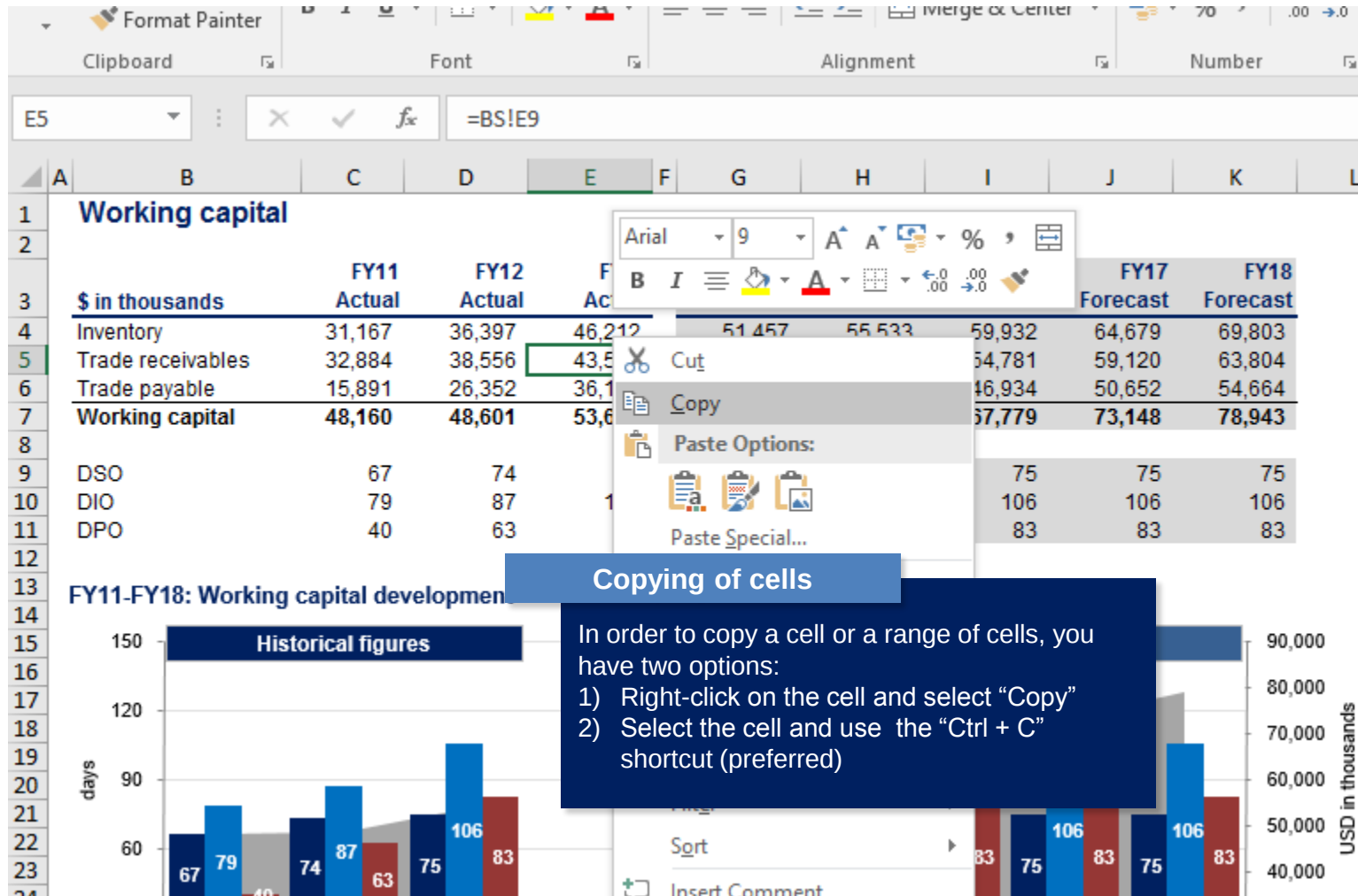
Create an Excel formula

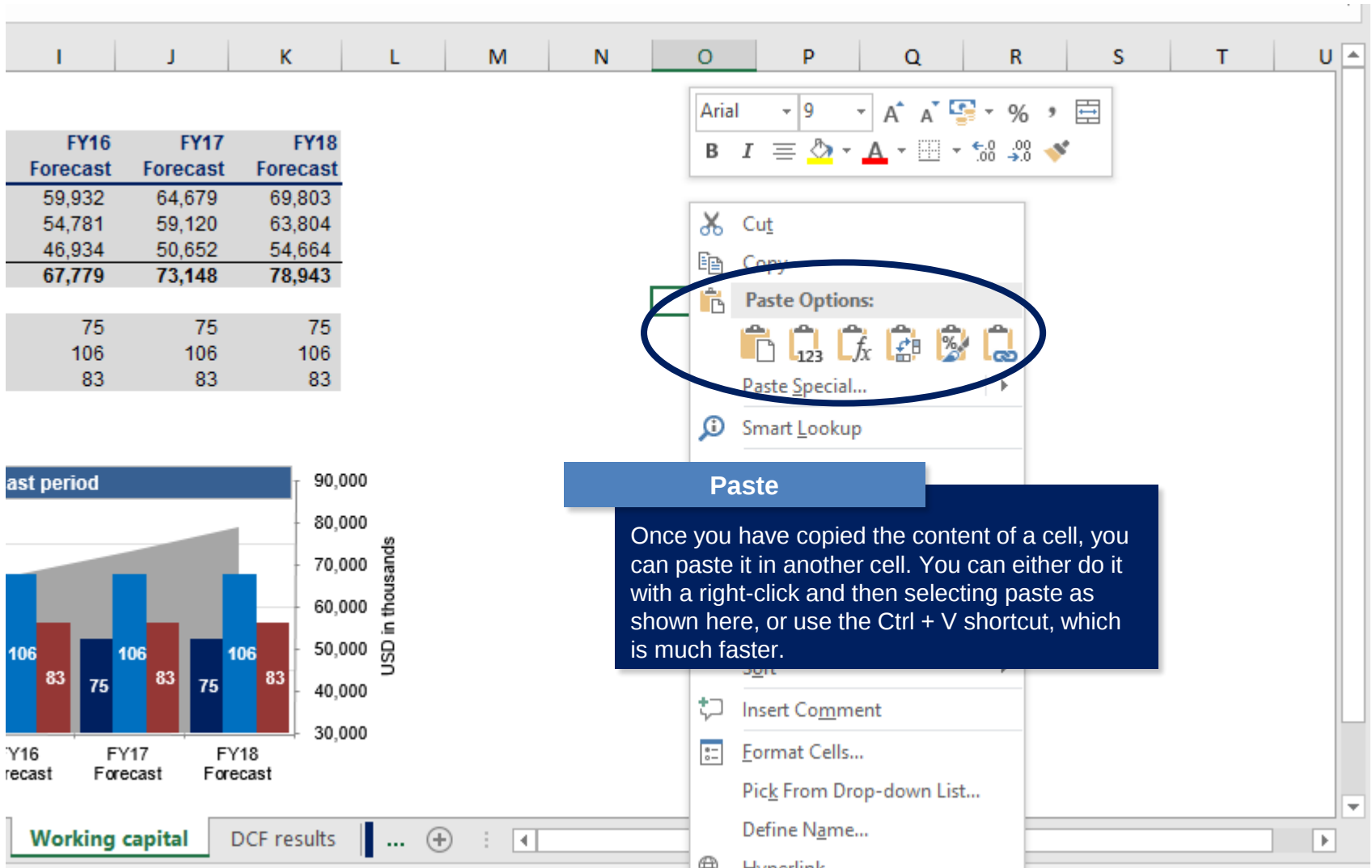
Type equal ("="), select the cells for which you would like to carry out the operations, and introduce the necessary operators (in this example "+")

Type "=" or "+" at the beginning of your formula. By doing this, Excel understands that you would like to create a formula and not just type text



Copying of cells





The screenshot shows an Excel spreadsheet with columns I through U. A table of financial data is visible in the top left, and a bar chart is in the bottom left. The 'Paste' context menu is open, showing various options. The 'Paste Options' section is highlighted with a blue circle. Below the menu, a blue box contains the text:

Paste

Once you have copied the content of a cell, you can paste it in another cell. You can either do it with a right-click and then selecting paste as shown here, or use the Ctrl + V shortcut, which is much faster.

FY16 Forecast	FY17 Forecast	FY18 Forecast
59,932	64,679	69,803
54,781	59,120	63,804
46,934	50,652	54,664
67,779	73,148	78,943

FY16 Forecast	FY17 Forecast	FY18 Forecast
75	75	75
106	106	106
83	83	83

Bar chart data (USD in thousands):

Period	106	83
FY16 Forecast	106	83
FY17 Forecast	106	83
FY18 Forecast	106	83

Worksheet tabs: Working capital, DCF results, ...

	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

FY12	FY13	FY14	FY15	FY16	FY17	FY18
Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
397	46,212	51,457	55,533	59,932	64,679	69,803
556	43,582	47,034	50,760	54,781	59,120	63,804
352	36,190	40,297	43,489	46,934	50,652	54,664
601	53,604	58,194	62,804	67,779	73,148	78,943
74	75	75	75	75	75	75
87	106	106	106	106	106	106
63	83	83	83	83	83	83

ient

Paste Special (Alt + E + S)

The Paste Special dialog box (which you can open by using the “Alt + E + S” shortcut) provides many pasting options. For example, you can choose to paste only the formulas of the copied cells, paste the values of the copied cells, or paste only the format of the copied cells etc.

USD in thousands

Paste Special

Paste

☒ All
 ☐ Formulas
 ☐ Values
 ☐ Formats
 ☐ Comments
 ☐ Validation

☐ All using Source theme
 ☐ All except borders
 ☐ Column widths
 ☐ Formulas and number formats
 ☐ Values and number formats
 ☐ All merging conditional formats

Operation

☒ None
 ☐ Add
 ☐ Subtract

☐ Multiply
 ☐ Divide

☐ Skip blanks
 ☐ Transpose

Paste Link

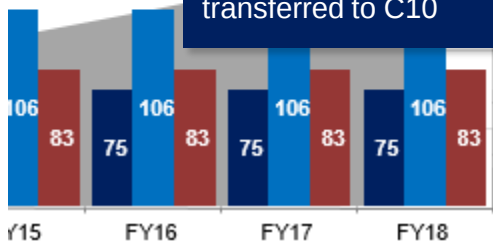
OK

Cancel

	H	I	J	K	L	M	N
	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast			
	55,533	59,932	64,679	69,803			
	50,760	54,781	59,120	63,803			
	43,489	46,934	50,652	54,603			
	62,804	67,779	73,148	78,903			
	75	75	75	75			
	106	106	106	106			
	83	83	83	83			

Cut (Ctrl + X)

Forecast



Cut allows you to move a cell's content from one location to another. You need to select the Cut command as shown here, or use the "Ctrl + X" shortcut (preferred). Once you do that, you can paste the cell's content in another cell (C10 in the example to the right). As you can see, the content of the cell which was in C7 transferred to C10

The screenshot shows the Excel ribbon with the 'Cut' command highlighted in the 'Paste' group. Below the ribbon, a context menu is shown with options: Cut, Copy, Paste Options, Paste Special..., and Smart Lookup.

Undo & Redo

The Undo feature of Excel allows you to quickly correct mistakes. On the other hand, the Redo button lets you Redo what has been previously Undone. It is worth memorizing the shortcuts for the two commands: Undo ("Ctrl + Z") and Redo ("Ctrl + Y")

DCF Valuation - Excel

File Home Insert Page Layout Formulas Data Review View Developer Tell me what you want to do

Undo Paste (Ctrl+Z)

Clipboard

M5

		FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	
	\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	
1	Working capital									
2										
3										
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803	
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804	
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664	
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943	
8										
9	DSO	67	74	75	75	75	75	75	75	
10	DIO	79	87	106	106	106	106	106	106	
11	DPO	40	63	83	83	83	83	83	83	
12										
13	FY11-FY18: Working capital development									
14										
15	150	Historical figures		Forecast period						90,000
16	120									
17										
18										
19										

See BS Assumption

Select an area of cells

The screenshot shows the Microsoft Excel interface with the 'Home' tab selected. The ribbon includes options for Clipboard, Font, Alignment, and Number. The active cell is D4, and the formula bar shows the value 'a'. A range of cells from D4 to F6 is selected, containing the following data:

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3												
4				a	b	c						
5				d	e	f						
6				g	h	i						
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

Select cells (Shift + Arrow key)

You can easily select cells by pressing shift and navigating with the arrow keys through the cells of the spreadsheet